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scene and that its size is such that it would not, in fact, be a significant contributor to the total radiation seen by the unfocussed detectors 3,4. Although a reliable spectral ratio cannot be obtained for the flame alone in these conditions, the system of the present invention may still have sufficient confidence in the existence of a flame to activate the alarm or possibly to activate a lesser warning signal. In order to improve the reliability of the system in this scenario, additional signal processing methods, such as time series analysis of the single pixel flame signal from the array, may also be performed by the processor.

[0029] It will be understood from the above that, whilst systems of the prior art are able to perform reliably in one or perhaps some of the scenarios described above, the present invention provides a system which is able reliably to detect a flame and distinguish it from a false alarm source in all practical scenarios

[0030] In practice, the system may be programmed to provide one of four different alarm messages depending on the conditions which are discerned within the viewing area, namely-

Activity! where energetic radiation sources have been detected in the scene but are probably not flames.

Warning! where there is a possibility that flames are present;

Alert! where there is a high probability that flames are present; and

Fire! where there is a high probability of flames within the monitored area.

[0031] The reliability of the system may be further improved by including an absolute temperature sensor on the instrument casing, the output of which may be utilised by the processor as a further factor in ascertaining the nature of a radiation source located within the viewing area. Other sensors which might be utilised to improve the operation of the system still further are a rate of rise of temperature and a vibration sensor. The system may also include a third unfocussed volumetric sensor which measures the intensity of short wavelength or visible radiation. In this way, it is possible to derive additional information about false alarm sources such as